

What is claimed is:

1. A fiber array camera comprising:
  - a plurality of optical fibers;
  - a fiber assembly unit in which the optical fibers are bundled together and an image pickup surface comprising end surfaces of the optical fibers is formed;
  - a light receiving lens for focusing an image of an object on the image pickup surface; and
  - a plurality of light receiving elements, each of which is connected to one of the optical fibers and receives an optical signal for one pixel therefrom.
2. The fiber array camera according to claim 1, wherein the image pickup surface is part of an arc or spherical surface whose center is a point on an optical axis of the light receiving lens.
3. The fiber array camera according to claim 1, wherein the end surfaces are in hound's-tooth arrangement.
4. The fiber array camera as in claim 1, 2, or 3, further comprising a preamplifier for converting output current of the light receiving elements into voltage, an A/D converter for converting the voltage into digital signals, a memory for successively storing the digital signals, and an

image signal output unit in which the image signal output unit reads out the digital signals so as to form a digital image signal of the object.